

WHAT IS CLAIMED IS:

1 1. A system for wireless transfer of data, said system comprising:
2 a host transceiver unit configured to be connected with a host via a bus, and
3 configured to wirelessly exchange data with a human interface device;
4 a human interface device configured to wirelessly exchange data with a host
5 transceiver; and
6 computer readable media having instructions thereon, said instructions
7 comprising routines for synchronizing said host transceiver unit and said human interface
8 device for wirelessly exchanging data between said host transceiver and said human interface
9 device at a spread spectrum modulation pattern which is determined by said host transceiver
10 unit after said host transceiver unit and said human interface device have acknowledged each
other's presence.

2 2. The system of claim 1 wherein said spread spectrum modulation is a
frequency hopping spread spectrum modulation.

3 3. The system of claim 1 wherein said spread spectrum modulation is a
direct sequence spread spectrum modulation.

4 4. The system of claim 1 wherein said routines for synchronizing said
host transceiver unit and said human interface device comprise the broadcasting of a first
signal at a first broadcasting pattern by one of said host transceiver and said human interface
device in response to powering up one of said host transceiver unit and said human interface
device respectively, wherein said first signal is intended to be received by one of said human
interface device and said host transceiver unit.

5 5. The system of claim 4 wherein said first signal comprises a proposal
ID signal.

6 6. The system of claim 1 wherein said routines for synchronizing said
host transceiver unit and said human interface device comprise routines for causing said
human interface device to switch to broadcasting at a broadcast pattern matching that of the
host transceiver unit after a receipt of a signal transmitted by said host transceiver unit by said
human interface device, thus synchronizing said host transceiver unit and said human
interface device.

1 7. The system of claim 6 wherein said human interface device transmits
2 an acknowledgment signal to said host transceiver unit after having switched to broadcasting
3 at a pattern matching that of the host transceiver unit.

1 8. The system of claim 7 wherein said acknowledgment signal includes a
2 signal originally sent by said host transceiver unit.

1 9. The system of claim 6 wherein said system is configured to transfer
2 data between said host transceiver and said human interface device at a second broadcast
3 pattern after said human interface device has synchronized with the host transceiver unit.

1 10. The system of claim 9 wherein said second broadcast frequency pattern
2 is established by said host transceiver unit.

3 11. The system of claim 1 wherein said routines for synchronizing said
4 host transceiver unit and said human interface device comprise routines for causing said host
5 transceiver unit to switch to broadcasting at a broadcast pattern matching that of the human
6 interface device after a receipt of a signal transmitted by said human interface device by said
7 host transceiver unit, thus synchronizing said host transceiver unit and said human interface
8 device.

9 12. The system of claim 1,
10 wherein said host transceiver unit is configured to broadcast at one of a
11 plurality of host spread spectrum modulation patterns, each of which is a function of the host
12 communication state;

13 said human interface device is configured to broadcasts at one of a plurality of
14 device spread spectrum modulation patterns, each of which is a function of the device
15 communication state; and

16 wherein said host transceiver unit and said human interface device broadcast
17 at a same spread spectrum modulation pattern after said host receiver and said human
18 interface device have acknowledged each other's presence.

1 13. The system of claim 12, wherein said host communication state
2 comprise off, scan, and connected states, and wherein said device communication states
3 comprise sleep, scan and connected states.

1 14. The system of claim 1 wherein said host transceiver unit and said
2 human interface device wirelessly exchange data over a 2.4 GHz wireless connection.

1 15. The system of claim 1 wherein said host transceiver unit and said
2 human interface device wirelessly exchange data over a 900 MHz wireless connection.

1 16. The system of claim 1 wherein said host transceiver unit and said
2 human interface device wirelessly exchange data over a 2.4 GHz spread spectrum wireless
3 connection.

1 17. The system of claim 1 wherein said host transceiver unit and said
2 human interface device wirelessly exchange data over a 900 MHz spread spectrum wireless
3 connection.

1 18. The system of claim 1 wherein said host is selected from the group
2 consisting of a personal computer, a handheld computer, an interactive set-top box, an
3 interactive game console and combinations thereof.

1 19. The system of claim 1 wherein said human interface device is selected
2 from the group consisting of a computer keyboard, a computer mouse, an interactive game
3 controller, a joy stick, a gamepad, a computer steering wheel, an electronic camera and
4 combinations thereof.

1 20. A wireless human interface device configured to establish a wireless
2 link with a host, said device comprising:

3 a transceiver for transmitting data to and receiving data from a host

4 transceiver, wherein said host transceiver is connected with said host;

5 a processor connected with said transceiver and configured to process data
6 from said host and said human interface device; and

7 a computer readable media having instructions thereon, said instructions
8 comprising routines for establishing a spread spectrum modulation pattern, wherein said
9 routines are responsive to signals received from said host transceiver.

1 21. The device of claim 20 wherein said wireless link is a 2.4 GHz
2 wireless connection.

1 22. The device of claim 20 wherein said wireless link is a 900 MHz
2 wireless connection.

1 23. The device of claim 20 wherein said wireless link is a 2.4 GHz spread
2 spectrum wireless connection.

1 24. The device of claim 20 wherein said wireless link is a 900 MHz spread
2 spectrum wireless connection.

1 25. The device of claim 20 wherein said human interface device is selected
2 from the group consisting of a computer keyboard, a computer mouse, an interactive game
3 controller, a joy stick, a gamepad, a computer wheel, an electronic camera and combinations
4 thereof.

1 26. A method of establishing a wireless connection between a human
2 interface device and a host transceiver unit comprising:
3 connecting said host transceiver with a host;
4 transmitting a proposal identification at a first host transceiver spread
5 spectrum modulation pattern using said host transceiver;
6 detecting said proposal identification using said human interface device;
7 adjusting said human interface device to transmit at said first transceiver
8 spread spectrum modulation pattern;
9 transmitting a signal including said proposal identification to said host
10 transceiver using said human interface device at said first host transceiver spread spectrum
11 modulation pattern;
12 receiving said proposal identification from said human interface device, using
13 said host transceiver; and
14 establishing said wireless connection using said host transceiver unit upon said
15 host transceiver receiving said signal including said proposal identification sent by said
16 human interface device.

27. The method of claim 26 wherein said spread spectrum modulation pattern is a frequency hopping spread spectrum modulation pattern.

28. The method of claim 26 wherein said spread spectrum modulation pattern is a direct sequence spread spectrum modulation pattern.

29. The method of claim 26 wherein said establishing said wireless connection further comprises:

- generating a marriage identification using said host transceiver unit;
- transmitting data including said marriage identification from said host transceiver unit to said human interface device at a second host transceiver spread spectrum modulation pattern;
- adjusting said human interface device to transmit at said second host transceiver spread spectrum modulation pattern;
- receiving said data by said human interface device; and
- transmitting data from said human interface device to said host transceiver at said same second host receiver spread spectrum modulation pattern.

30. The method of claim 26 wherein said wireless connection includes exchanging data over a 2.4 GHz wireless connection.

31. The method of claim 26 wherein said wireless connection includes exchanging data over a 900 MHz wireless connection.

32. The method of claim 26 wherein said wireless connection includes exchanging data over a 2.4 GHz spread spectrum wireless connection.

33. The method of claim 26 wherein said wireless connection includes exchanging data over a 900 MHz spread spectrum wireless connection.

34. A method of establishing a wireless connection between a human interface device and a host transceiver unit comprising:

- connecting said host transceiver with a host;
- transmitting a proposal identification at a first human interface device spread spectrum modulation pattern using said human interface device;
- detecting said proposal identification using said host transceiver unit;

7 adjusting said host transceiver unit to transmit at said first human interface
8 device spread spectrum modulation pattern;

9 transmitting a signal including said proposal identification to said human
10 interface device using said host transceiver unit at said first human interface device spread
11 spectrum modulation pattern;

12 receiving said proposal identification from said host transceiver unit, using
13 said human interface device; and

14 establishing said wireless connection using said human interface device upon
15 said human interface device receiving said signal including said proposal identification sent
16 by said host transceiver unit.

1 35. The method of claim 34 wherein said establishing said wireless
2 connection further comprises:

3 generating a marriage identification using said human interface device;
4 transmitting data including said marriage identification from said human
5 interface device to said host transceiver unit at a second human interface device spread
6 spectrum modulation pattern;

7 adjusting said host transceiver unit to transmit at said second human interface
8 device spectrum modulation pattern;

9 receiving said data by said host transceiver unit; and

10 transmitting data from said host transceiver to said human interface device at
11 said same second human interface device spread spectrum modulation pattern.